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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,392	07/15/2005	Yuichi Mori	55610/DBP/A400	3091
23363 7590 06/07/2010 CHRISTIE, PARKER & HALE, LLP PO BOX 7068 PASADENA, CA 91109-7068				
EXAMINER				
HAYES, KRISTEN C				
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3643				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/542,392

Applicant(s)

MORI ET AL.

Examiner

KRISTEN C. HAYES

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/22)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-5, 7, 8 and 10-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.
3. Claims 1 and 7 recite the limitation of the aqueous fertilizer solution affecting the growth of the plant. However, it isn't apparent from the specification how the aqueous fertilizer solution affects the growth of the plant. Page 7 of the specification states the "it is *presumably* considered that the fertilizer component is absorbed by the root in either of two methods:...". From this statement, it doesn't appear as though the applicant has a concrete knowledge of how the fertilizer is absorbed by the root, and thereby affects the plant.
4. Page 8 goes on to say the root (presumably) absorbs fertilizer from the surface of the film *with water or the water present on the surface of the film* on the side where the root is present. The fertilizer is said to be absorbed with water on the root side of the film. However, the film of the instant invention is non-porous and does not pass water, so how is fertilizer absorbed with water on the root side of the film?
5. The instant specification goes on the positively say the fertilizer is absorbed as ions *through* the film. However, it is unclear how the applicant arrived at the conclusion that the fertilizer is absorbed through the film, when previously the applicant only presumed so.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 7, 8 and 10-13 rejected under 35 U.S.C. 103(a) as being unpatentable over Tonkin et al. US Patent 6,615,537 (hereinafter "Tonkin") in view of Wright EP Application 0 268 556 (cited on IDS filed 22 December 2005).

3. Regarding claim 1, Tonkin discloses a plant cultivating system (Tonkin, Fig: 2) comprising a container (6) having a shape; a non-porous hydrophilic film (5) (Tonkin, column 3: lines 41-43) in contact with water (7). Not disclosed is the water containing fertilizer, or the aqueous fertilizer solution affecting the growth of the plant. Wright teaches water containing fertilizer that contacts a plant through hydrophilic film (Wright, column 4: lines 15-19). It would have been obvious to one of ordinary skill in the art at the time of the invention to add fertilizer to the water of Tonkin as taught by Wright so as to affect the growth of the plant with a nutrient rich medium.

4. Regarding claim 2, Tonkin in view of Wright further discloses the film showing an electrical conductivity difference of 4.5 dS/m or less (Tonkin, column 4: lines 49-51...60-61, column 7: lines 39-40). Tonkin discloses film of a polyvinyl alcohol with a thickness of 40µm, which is one of the same films described in the specification of the instant application as showing a difference of less than 4.5 dS/m in electric conductivity in a water/saline solution system at the time four days after the start of measurement. The method used to determine the electrical conductivity is considered a product by process limitation. The product in such a claim

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is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. *In re Thorpe*, USP 964, 966. The film disclosed by Tonkin meets the limitations of the claim.

5. Regarding claim 3, Tonkin in view of Wright further discloses the film showing a Brix concentration difference of 4% or less (Tonkin, column 4: lines 49-51...60-61, column 7: lines 39-40). Tonkin discloses film of a polyvinyl alcohol with a thickness of 40µm, which is one of the same films described in the specification of the instant application as showing a Brix concentration difference of 4% or less in a glucose solution system at the time three days after the start of contact. The method used to determine the Brix concentration is considered a product by process limitation. The product in such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. *In re Thorpe*, USP 964, 966. The film disclosed by Tonkin meets the limitations of the claim.

6. Regarding claim 4, Tonkin in view of Wright further discloses a device with the limitations of claim 1 further characterized by the film showing a peeling strength of 10g or more with respect to the root of the plant body (Tonkin, column 4: lines 49-51...60-61, column 7: lines 39-40); in that Tonkin discloses film of a polyvinyl alcohol with a thickness of 40µm, which is one of the same films described in the specification of the application as showing a peeling strength of 10g or more with respect to the root of the plant body at the time of day 35 at the inside of the film. Although Tonkin does not explicitly state that the peeling strength of the film is 10g or more, it would have been obvious to use such a film. The more force required to remove the film from the roots of the plant, the more likely that the film integrated with the roots. A film with a peeling strength less than 10g might not fully integrate with the plant. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of

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Tonkin with a film showing a peeling strength of 10g or more to ensure that the film integrated with the roots of the plant.

7. Regarding claim 10, Tonkin in view of Wright further discloses the hydrophilic film being polyvinyl alcohol (Tonkin, column 4: line 61).

8. Regarding claim 7, Tonkin discloses a plant cultivating system (Tonkin, Fig: 2) comprising a container (6) having a shape; a non-porous hydrophilic film (5) (Tonkin, column 3: lines 41-43) in contact with water (7) and placed on the water in a manner such that the lower surface of the non-porous hydrophilic film is in contact with the surface of the water; a plant (4) on the non-porous hydrophilic film. Not disclosed is the water containing fertilizer, the fertilizer solution affecting the plant growth, or the roots of the plant growing on and integrated with the film. Wright teaches water containing fertilizer that contacts a plant through hydrophilic film (Wright, column 4: lines 15-19), and Wright further teaches a plant film integrate comprising a plant body (17) and a film (10) that has substantially been integrated with the root of the plant body (Wright, column 8: lines 18-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to add fertilizer to the water of Tonkin as taught by Wright so as to affect the growth of the plant by providing a nutrient rich medium to the plants, and to integrate the plant body roots of Tonkin with the film, as taught by Wright, to increase the strength and durability of the roots.

9. Regarding claim 8, Tonkin in view of Wright further discloses a plant-retaining support disposed on the non-porous hydrophilic film (Tonkin, column 5: line 65- column 6: line 5).

10. Regarding claim 11, Tonkin in view of Wright further discloses the film having a thickness of 10 microns (Tonkin, column 7: lines 39-40).

11. Regarding claim 12, Tonkin in view of Wright further discloses the film is added onto a porous material (Tonkin, column 5: line 65-column 6: line 5). Not disclosed is the film being

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laminated to the other film. However, this is considered a product by process limitation. The product in such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. *In re Thorpe*, USP 964, 966.

12. Regarding claim 13, Tonkin further discloses the porous material comprising an unwoven polyethylene fabric having communicating pores (Tonkin, column 5: line 65-column 6: line 5).

13. Claims 1, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori EP 1 203 525 in view of Wright EP Application 0 268 556.

14. Regarding claim 1, Mori discloses a plant-cultivating system comprising a container having a shape; a non-porous hydrophilic film (4) (Mori, ¶0042); wherein the container is filled with water (7). Mori discloses that the water being seawater (Mori, ¶0074), which would contain salt ions. Not explicitly disclosed are the ions in the water being fertilizer. Wright teaches ions in water being fertilizer, which contacts a plant through hydrophilic film (Wright, column 4: lines 15-19. It would have been obvious to one of ordinary skill in the art at the time of the invention for the seawater of Mori to act as fertilizer as taught by Wright as to provide a nutrient rich medium to the plants.

15. Regarding claim 5, Mori in view of Wright further discloses the film having a water impermeability of more than 10cm (Mori, page 5: lines 30, page 12: lines 52-53). The method used to determine the water impermeability is considered a product by process limitation. The product in such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. *In re Thorpe*, USP 964, 966. The film disclosed by Tonkin meets the limitations of the claim.

16. Regarding claim 6, Mori discloses a plant body (5) and a film (4) comprising a nonporous hydrophilic film (Mori, ¶¶0042) showing a peeling strength of 10g or more with respect to the root of the plant body (Mori, ¶¶0042-0043); in that Mori discloses film of a polyvinyl alcohol with a thickness of 40µm, which is one of the same films described in the specification of the application as showing a peeling strength of 10g or more with respect to the root of the plant body at the time of day 35 at the inside of the film. Not disclosed is the film being substantially integrated with the root of the plant body. Wright discloses a plant film integrate comprising a plant body (17) and a film (10) that has substantially been integrated with the root of the plant body (Wright, column 8: lines 18-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to integrate the plant body roots of Mori with the film, as taught by Wright, to increase the strength and durability of the roots, and for the film of Mori to have a peeling strength of 10g or more to ensure that the film integrated with the roots of the plant.

Response to Arguments

1. Applicant's arguments filed 05/24/2010 have been fully considered but they are not persuasive.
2. The applicant argues that there would be no motivation to add fertilizer to the water of Tonkin. However, it is well known in the art to add fertilizer to a water source to improve plant growth. Tonkin also discloses that damp soil could be used as a water source. Damp soil, which would contain fertilizer, would suggest fertilizer being added to the water source.
3. The applicant argues that there would be no motivation to add fertilizer to the water of Mori. However, the seawater of Mori would contain ions, and therefore fertilizer, as discussed above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KRISTEN C. HAYES whose telephone number is (571)270-3093. The examiner can normally be reached on Monday-Thursday, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on (571)272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KCH
3 June 2010

/Rob Swiatek/
Primary Examiner, Art Unit 3643
3 June 2010